

utilizing the online analytical processing tool and the customer demographic data to analyze each combination of the models based on at least one of risk, attrition, and profitability;

determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool;

using the online analytical processing tool to combine the models in the determined sequential order; and

generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.

Please add the following new claims:

20. (newly added) A method according to Claim 1 wherein said step of using the online analytical processing tool and the customer demographic data further comprises using the online analytical processing tool and the customer demographic data to analyze each combination of the models based on at least one of risk, attrition, and profitability.

21. (newly added) A system according to Claim 10 wherein said online analytical processing tool is further configured to analyze each combination of said models based on at least one of risk, attrition, and profitability.

**Remarks**

The Office Action mailed November 5, 2002 and made final, and the Advisory Action mailed March 14, 2003 have been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-19 are pending in this application. Claims 1-19 stand rejected.

The rejection of Claims 1-5, 9-13, 15, 18, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Melchione et al. (U.S. Patent No. 5,930,764) (“Melchione”) in view of Pham et al. (U.S. Patent No. 5,970,482) (“Pham”) is respectfully traversed.

Applicants respectfully submit that the neither Melchione nor Pham describe or suggest the claimed invention. As discussed below, neither Melchione nor Pham, considered alone or in combination, describe or suggest using an online analytical processing tool and customer demographic data to analyze a combination of models, determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool, using the online analytical processing tool to combine the models in the determined sequential order, and generating scores for a prospective customer in a database based on predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.

Melchione describes a sales process support system and a method for identifying sales targets using a centralized database (10). Central database (10) receives information from a variety of internal and external feeds (21-25), and standardizes and households the information in a three-level hierarchy, including households, customers, and accounts, for use by a financial institution. The information stored on central database (10) is accessed through micromarketing workstations (12) to generate lists of sales leads for marketing campaigns. A database engine (40) is provided for accessing data on central database (10). Contact strategy models are used to identify and target sales leads for each sales campaign. The system distributes sales leads electronically to branch networks, where the sales leads are used to target customers for marketing campaigns.

Pham describes a data mining system (3000) that includes a study manager (3010), a knowledge model engine (3070) coupled to study manager (3010), a discovery manager (3020) coupled to knowledge model engine (3070), an evaluation manager (3030) coupled to knowledge model engine (3070), and a prediction manager (3040) coupled to knowledge model engine (3070). System (3000) permits discovery, evaluation, and prediction of the correlative factors of

data, i.e., the conjunctions, as corresponding to neuroexpressions (a semantic connection of neuroagents) connected to an output neuroagent that corresponds to the data output.

Claim 1 recites a method for increasing efficiency of a marketing system that includes a database containing customer demographic data, wherein the steps include “building models of predicted customer profiles...embedding the models within an online analytical processing tool...using the online analytical processing tool and the customer demographic data to analyze a combination of the models...determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool...using the online analytical processing tool to combine the models in the determined sequential order...and generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.”

Neither Melchione nor Pham, considered alone or in combination, describe or suggest a method as recited in Claim 1. More specifically, neither Melchione nor Pham, considered alone or in combination, describe or suggest using an online analytical processing tool and customer demographic data to analyze a combination of models, determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool, using the online analytical processing tool to combine the models in the determined sequential order, and generating scores for a prospective customer in a database based on predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.

Rather, Melchione describes a central database that receives and standardizes information for use by a financial institution in generating lists of sales leads for marketing campaigns. Melchione does not describe nor suggest using an online analytical processing tool and customer demographic data to analyze a combination of models. Melchione also does not describe or suggest determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool, using the online analytical processing tool to combine the models in the determined sequential

order, and generating scores for a prospective customer in a database based on predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order. Moreover, as acknowledged by the Office Action at pages 4 and 5, Melchione does not disclose “embedding the models within an online analytical processing tool” and does not disclose “that the online analytical processing tool generates the scores by combining the models”.

Pham describes a data mining system that permits discovery, evaluation, and prediction of the correlative factors of data. Applicants respectfully traverse the assertion included in the Office Action that Pham indicates combining different models. Although Pham mentions at column 32, lines 29-30 that those “scored as best may include candidates in several profiles”, Pham does not describe combining models to generate scores. Rather, Pham describes generating scoring results that may include candidates in several profiles, but does not mention combining models to generate those scores.

Furthermore, although Pham mentions at column 13, lines 6-7 “fast data access tools, DSS, EIS, OLAP, etc.” and mentions at column 32, lines 27-31 that the “scoring level 2934 indicates the best candidates profiled in the results...Those scored as best may include candidates in several profiles and are not, therefore, a conventional numeric ranking from best to worst”, Pham does not describe nor suggest using an online analytical processing tool and customer demographic data to analyze a combination of models. Moreover, Pham does not describe nor suggest determining a sequential order for combining models prior to combining the models based on the model combination analysis performed by the online analytical processing tool, using the online analytical processing tool to combine the models in the determined sequential order, and generating scores for a prospective customer in a database based on predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order. Accordingly, Applicants respectfully submit that Claim 1 is patentable over Melchione in view of Pham.

Claims 2-5, and 9 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-5, and 9 are considered in combination with the recitations of Claim 1,

Applicants submit that dependent Claims 2-5, and 9 likewise are patentable over Melchione in view of Pham.

Claim 10 recites a system configured for targeting market segments that includes “a customer database...a graphical user interface for entering marketing campaign data...and models of predicted customer profiles based upon historic data that are embedded on an online analytical processing tool, said online analytical processing tool configured to analyze a combination of said models, determine a sequential order for combining said models prior to combining said models based on the model combination analysis, combine said models in the determined sequential order, and generate scores for a prospective customer in said database based on said predicted customer profiles by combining said models in the determined sequential order.”

Neither Melchione nor Pham, considered alone or in combination, describe or suggest a system as recited in Claim 10. More specifically, neither Melchione nor Pham, considered alone or in combination, describe or suggest an online analytical processing tool that is configured to analyze a combination of models, determine a sequential order for combining the models prior to combining the models based on the model combination analysis, combine the models in the determined sequential order, and generate scores for a prospective customer in a database based on predicted customer profiles by combining the models in the determined sequential order.

Rather, Melchione describes a central database that receives and standardizes information for use by a financial institution in generating lists of sales leads for marketing campaigns; and Pham describes a data mining system that permits discovery, evaluation, and prediction of the correlative factors of data. The Office Action acknowledges at pages 4 and 5 that Melchione does not disclose “embedding the models within an online analytical processing tool” and does not disclose “that the online analytical processing tool generates the scores by combining the models”. Moreover, although Pham mentions at column 32, lines 29-30 that those “scored as best may include candidates in several profiles”, Applicants respectfully submit that Pham does not describe an online analytical processing tool that is configured to combine models to

generate scores. Rather, Pham describes generating scoring results that may include candidates in several profiles, but does not mention combining models to generate those scores.

Furthermore, although Pham mentions at column 13, lines 6-7 “fast data access tools, DSS, EIS, OLAP, etc.” and mentions at column 32, lines 27-31 that the “scoring level 2934 indicates the best candidates profiled in the results...Those scored as best may include candidates in several profiles and are not, therefore, a conventional numeric ranking from best to worst”, Pham does not describe nor suggest an online analytical processing tool that is configured to analyze a combination of models, determine a sequential order for combining the models prior to combining the models based on the model combination analysis, combine the models in the determined sequential order, and generate scores for a prospective customer in a database based on the predicted customer profiles by combining the models in the determined sequential order. Accordingly, Applicants respectfully submit that Claim 10 is patentable over Melchione in view of Pham.

Claims 11-13, 15, and 18 depend, directly or indirectly, from independent Claim 10. When the recitations of Claims 11-13, 15, and 18 considered in combination with the recitations of Claim 10, Applicants submit that dependent Claims 11-13, 15, and 18 likewise are patentable over Melchione in view of Pham.

Claim 19 recites a method for increasing efficiency of a marketing system that includes a database containing customer demographic data, wherein the steps include “building models of predicted customer profiles, the models include a propensity model for supplying predicted answers to questions, a propensity model for determining a likelihood of a customer to close an account early, a propensity model for determining a likelihood of a customer to default on an account, a payment behavior prediction model for estimating risk, a client prospecting model for developing business...embedding the models within an online analytical processing tool...utilizing the online analytical processing tool and the customer demographic data to analyze each combination of the models based on at least one of risk, attrition, and profitability...determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing

tool...using the online analytical processing tool to combine the models in the determined sequential order...and generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.”

Neither Melchione nor Pham, considered alone or in combination, describe or suggest a method as recited in Claim 19. More specifically, neither Melchione nor Pham, considered alone or in combination, describe or suggest a method for increasing efficiency of a marketing system that includes building models of predicted customer profiles wherein the models include a propensity model for supplying predicted answers to questions, a propensity model for determining a likelihood of a customer to close an account early, a propensity model for determining a likelihood of a customer to default on an account, a payment behavior prediction model for estimating risk, a client prospecting model for developing business.

Moreover, neither Melchione nor Pham, considered alone or in combination, describe or suggest a method for increasing efficiency of a marketing system that includes utilizing an online analytical processing tool and customer demographic data to analyze each combination of models based on at least one of risk, attrition, and profitability, determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool, using the online analytical processing tool to combine the models in the determined sequential order, and generating scores for a prospective customer in a database based on the predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.

Although Pham mentions at column 32, lines 27-31 that the “scoring level 2934 indicates the best candidates profiled in the results...Those scored as best may include candidates in several profiles and are not, therefore, a conventional numeric ranking from best to worst”, Pham does not describe nor suggest a method as recited in Claim 19. Accordingly, Applicants respectfully submit that Claim 19 is patentable over Melchione in view of Pham.

Furthermore, the rejection of Claims 1-5, 9-13, 15, 18, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Melchione in view of Pham is further traversed on the grounds that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Melchione nor Pham, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Melchione with Pham because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicants' own teaching.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection appears to be based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Melchione is cited for teaching a sales process support system and method for identifying sales targets using a centralized database to improve



marketing success which utilizes customer profiles and a scoring system to predict customer activity; and Pham is cited for teaching using an OLAP and building a knowledge model to predict behavior. Since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants requests that the Section 103 rejection of Claims 1-5, 9-13, 15, 18, and 19 be withdrawn.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claims 1-5, 9-13, 15, 18, and 19 be withdrawn.

The rejection of Claims 6-8, 14, 16 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Melchione in view of Pham in further view of Sheppard is respectfully traversed.

Melchione and Pham are described above. Sheppard describes a system (10) for analyzing a data file that contains a plurality of data records with each data record containing a plurality of parameters. System (10) includes an input (40) for receiving the data file and a data processor (32) that has at least one of several data processing functions. These data processing functions include a segmentation function (34) for segmenting the data records into a plurality of segments based on the parameters. The data processing functions also include a clustering function (36) for clustering the data records into a plurality of clusters that contain data records having similar parameters. A prediction function (38) for predicting expected future results from the parameters in the data records may also be provided with the data processor (32).

Claims 6-8 depend from independent Claim 1. Claim 1 recites a method for increasing efficiency of a marketing system that includes a database containing customer demographic data, wherein the steps include "building models of predicted customer profiles...embedding the models within an online analytical processing tool...using the online analytical processing tool and the customer demographic data to analyze a combination of the models...determining a sequential order for combining the models prior to combining the models based on the model

combination analysis performed by the online analytical processing tool...using the online analytical processing tool to combine the models in the determined sequential order...and generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.”

None of Melchione, Pham, or Sheppard, considered alone or in combination, describe or suggest a method as recited in Claim 1. More specifically, none of Melchione, Pham, or Sheppard, considered alone or in combination, describe or suggest using an online analytical processing tool and customer demographic data to analyze a combination of models, determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool, using the online analytical processing tool to combine the models in the determined sequential order, and generating scores for a prospective customer in a database based on predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.

Rather, Melchione describes a sales process support system that receives and standardizes information for use by a financial institution in generating lists of sales leads for marketing campaigns; Pham describes a data mining system that permits discovery, evaluation, and prediction of the correlative factors of data; and Sheppard describes a system for analyzing a data file that includes a data processor that has at least one of several data processing functions including a segmentation function, a clustering function, and a prediction function. Accordingly, Applicants respectfully submit that Claim 1 is patentable over Melchione in view of Pham in further view of Sheppard.

When the recitations of Claims 6-8 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 6-8 likewise are patentable over Melchione in view of Pham in further view of Sheppard.

Claims 14, 16, and 17 depend from independent Claim 10. Claim 10 recites a system configured for targeting market segments that includes “a customer database...a graphical user interface for entering marketing campaign data...and models of predicted customer profiles based upon historic data that are embedded on an online analytical processing tool, said online analytical processing tool configured to analyze a combination of said models, determine a sequential order for combining said models prior to combining said models based on the model combination analysis, combine said models in the determined sequential order, and generate scores for a prospective customer in said database based on said predicted customer profiles by combining said models in the determined sequential order.”

None of Melchione, Pham, or Sheppard, considered alone or in combination, describe or suggest a system as recited in Claim 10. More specifically, none of Melchione, Pham, or Sheppard, considered alone or in combination, describe or suggest an online analytical processing tool that is configured to analyze a combination of models, determine a sequential order for combining the models prior to combining the models based on the model combination analysis, combine the models in the determined sequential order, and generate scores for a prospective customer in a database based on predicted customer profiles by combining the models in the determined sequential order.

Rather, Melchione describes a sales process support system that receives and standardizes information for use by a financial institution in generating lists of sales leads for marketing campaigns; Pham describes a data mining system that permits discovery, evaluation, and prediction of the correlative factors of data; and Sheppard describes a system for analyzing a data file that includes a data processor that has at least one of several data processing functions including a segmentation function, a clustering function, and a prediction function. Accordingly, Applicants respectfully submit that Claim 10 is patentable over Melchione in view of Pham in further view of Sheppard.

When the recitations of Claims 14, 16, and 17 are considered in combination with the recitations of Claim 10, Applicants submit that dependent Claims 14, 16, and 17 likewise are patentable over Melchione in view of Pham in further view of Sheppard.

Furthermore, the rejection of Claims 6-8, 14, 16, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Melchione in view of Pham in further view of Sheppard is further traversed on the grounds that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. None of Melchione, Pham, or Sheppard, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Melchione with Pham and Sheppard because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicants' own teaching.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. The present Section 103 rejection appears to be based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Melchione and Pham are cited for teaching a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, customer profiles, a scoring system to predict customer activity, propensity models, and OLAP; and Sheppard is cited for teaching predicting customer behavior, profitability, and associated risks. Since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants requests that the Section 103 rejection of Claims 6-8, 14, 16, and 17 be withdrawn.

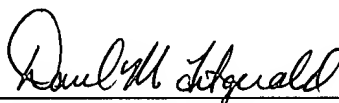
For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claims 6-8, 14, 16, and 17 be withdrawn.

Newly added Claim 20 depends from independent Claim 1, which is submitted in a condition for allowance and patentable. When the recitations of Claim 20 are considered in combination with the recitations of independent Claim 1, Applicants submit that dependent Claim 20 is also patentable over the cited art.

Newly added Claim 21 depends from independent Claim 10, which is submitted in a condition for allowance and patentable. When the recitations of Claim 21 are considered in combination with the recitations of independent Claim 10, Applicants submit that dependent Claim 21 is also patentable over the cited art.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool;

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Contd  
using the online analytical processing tool to combine the models in the determined sequential order; and

generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool [determines a sequential order for combining the models and] generates the scores by combining the models in the determined sequential order.

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Please add the following new claims:

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20. (newly added) A method according to Claim 1 wherein said step of using the online analytical processing tool and the customer demographic data further comprises using the online analytical processing tool and the customer demographic data to analyze each combination of the models based on at least one of risk, attrition, and profitability.

21. (newly added) A system according to Claim 10 wherein said online analytical processing tool is further configured to analyze each combination of said models based on at least one of risk, attrition, and profitability.

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Samra et al. :  
Serial No.: 09/474,588 : Art Unit: 3621  
Filed: December 29, 1999 : Examiner: James A. Reagan  
For: METHODS AND SYSTEMS :  
FOR CREATING MODELS FOR :  
MARKETING CAMPAIGNS :

**SUBMISSION OF MARKED UP CLAIMS**

Commissioner for Patents  
Washington, D.C. 20231

Submitted herewith are marked up Claims in accordance with 37 C.F.R. 1.121(c)(1)(ii).

IN THE CLAIMS

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1. (twice amended) A method for increasing efficiency of a marketing system, the system comprising a database containing customer demographic data, said method including the steps of:

building models of predicted customer profiles;

embedding the models within an online analytical processing tool; [and]

using the online analytical processing tool and the customer demographic data to analyze a combination of the models;

determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool;

using the online analytical processing tool to combine the models in the determined sequential order; and

P1  
Contd  
generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool generates the scores by combining the models in the determined sequential order.

10. (twice amended) A system configured for targeting market segments comprising:

a customer database;

a graphical user interface for entering marketing campaign data; and

P2  
models of predicted customer profiles based upon historic data that are embedded on an online analytical processing tool, said online analytical processing tool configured to [combine said models.] analyze a combination of said models, determine a sequential order for combining said models prior to combining said models based on the model combination analysis, combine said models in the determined sequential order, and generate scores for a prospective customer in said database based on said predicted customer profiles by combining said models in the determined sequential order.

19. (once amended) A method for increasing efficiency of a marketing system, the system comprising a database containing customer demographic data, said method including the steps of:

P3  
building models of predicted customer profiles, the models include a propensity model for supplying predicted answers to questions, a propensity model for determining a likelihood of a customer to close an account early, a propensity model for determining a likelihood of a customer to default on an account, a payment behavior prediction model for estimating risk, a client prospecting model for developing business;

embedding the models within an online analytical processing tool; [and]

utilizing the online analytical processing tool and the customer demographic data to analyze each combination of the models based on at least one of risk, attrition, and profitability;